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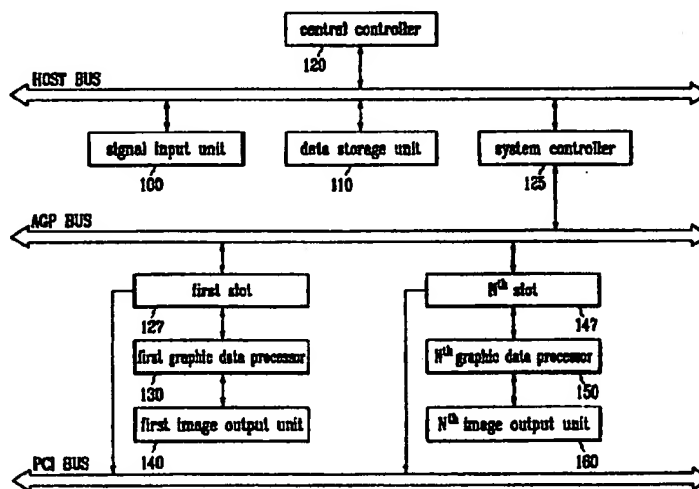
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(54) Title: **COMPUTER WITH A PLURALITY OF IMAGE OUTPUT DEVICES**



(57) Abstract: A computer with a plurality of image output device comprises a signal input unit for generating a plurality of graphic data processing signals; a data storage unit for storing a driver for processing various application programs and graphic data and storing other types of data; a CPU for splitting graphic data that are generated when enabling the driver to process the data according to the graphic data processing signals provided by the signal input unit, and for outputting a plurality of driving signals; a plurality of graphic data processors for respectively receiving one of the driving signals output by the CPU, processing the graphic data corresponding to the received driving signal, and outputting an image signal; and a plurality of image output unit for respectively receiving one of the image signals output by graphic data processors, converting it into a video signal, and outputting the video signal to a user.

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Computer with a Plurality of Image Output Devices BACKGROUND OF THE INVENTION (a) Field of the Invention The present invention relates to a computer. More specifically, the present invention relates to a display of a computer.

(b) Description of the Related Art In modern society, computers have a close relationship with human daily life, and various human activities have been created through computers.

Therefore, in some cases, a computer user has to concurrently watch a plurality of screens while doing jobs through the computer. For example, since stock dealers must keep up with worldwide fund flows, they must receive different screens through a plurality of monitors. Also, in the case of simulation games, it is necessary that the gamers concurrently enjoy situations created in different positions of a map of the simulation game.

SUMMARY OF THE INVENTION It is an object of the present invention to connect a plurality of monitors with a single computer and to display different screens for each monitor by the computer.

It is another object of the present invention to provide a plurality of graphic cards to a computer so that the computer may display identical images to a plurality of image output devices or display different images to the respective image output devices.

In one aspect of the present invention, a computer with a plurality of image output devices comprises: a signal input unit for generating N (N represents a natural number equal to or greater than two) graphic data processing signals according to a [USER'S] intention; a data storage unit for storing drivers for processing various application programs and graphic data used in the computer, and other kinds of data; a central controller for enabling a driver to divide graphic data generated when processing the data according to the N graphic data processing signals input from the signal input unit, and to output N driving signals; N graphic data processors, each for receiving one of the N driving signals output by the central controller to be operated, processing graphic data corresponding to the received driving signals to output image signals; and N image output units, each for receiving one of N image signals output by the N graphic data processors, converting it into a visual signal, and outputting the same to a user.

The signal input unit is at least one of a keyboard, a mouse, a remote controller or a touch screen.

The first graphic data processor is a graphic card.

BRIEF DESCRIPTION OF THE DRAWINGS The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles of the invention: FIG. 1 shows a block diagram of a computer with a plurality of image output devices according to a preferred embodiment of the present invention; and FIGs. 2 and 3 show an exemplified computer with a plurality of image output devices according to a preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor (s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious respects, all without departing from the invention.

Accordingly, the drawings and description are to be regarded as illustrative in nature, and not restrictive.

[FIG. 1-SHOWS] a block diagram of a computer with a plurality of image output devices according to a preferred embodiment of the present invention.

As shown, the computer with a plurality of image output devices comprises: a signal input unit 100; a data storage unit 110; a central controller 120; a system controller 125; a first slot 127; a first graphic data processor 130; a first image output unit 140; an [NTH SLOT] 147; an [NTH GRAPHIC] data processor 150; and an

[NTH IMAGE] output unit 160. The "N" represents a natural number equal or greater than 2. Also, the [NTH SLOT] 147, the [NTH GRAPHIC] data processor 150 and the [NTH] image output unit 160 represent that one to N slots, graphic data processors and image output units are provided. That is, if N = 3, three slots, three graphic data processors and three image output units are provided.

The signal input unit 100 such as a keyboard and a mouse generates first to [NTH GRAPHIC] data processing signals according to a user's intention.

The data storage unit 110 stores various application programs used for the computer, drivers for processing graphic data, and other kinds of data.

The central controller 120 enables the driver to separate the graphic [. . .] data generated while processing the data according to the first to [NTH GRAPHIC] processing signals provided by the signal input unit 100 and output first to [NTH] driving signals.

The system controller 125 controls an order of signals input to the central controller 120, an order of signals output from the central controller 120, and output signals to be correctly provided to other devices, and processes unimportant signals to reduce processing load of the central controller [120 . . .]

In this instance, the signal input unit 100, the data storage unit 110, the central controller 120 and the system controller 125 are connected to a host bus.

The first slot 127, connected to an accelerated graphics port (AGP) bus, functions as an interface for transmitting the signals input/output [TO/FROM] the first graphic data processor 130 to the AGP bus so that the signals input/output [TO/ . . . FROM] the first graphic data processor 130 are [INPUT/OUTPUT] to/from the system controller 125.

The first graphic data processor 130, functioning as a graphic card, receives a first driving signal from the central controller [120 . . .] to be operated, and processes graphic data corresponding to the first driving signal to output first image signals.

The first image output unit 140, functioning as a [MONITOR, RECEIVES] -from the first graphic data processor 130, converts them into visual signals, and outputs them to the user.

The [NTH SLOT] 147, connected to the AGP bus, functions as an interface for transmitting the signals input/output to/from the [NTH GRAPHIC DATA] processor 150 to the AGP bus so that the signals input/output to/from the [NTH] graphic data processor 150 are input/output to/from the system controller 125.

The [NTH] graphic data processor 150, functioning as a graphic card, receives an [NTH DRIVING SIGNAL] from the central controller 120 to be operated, and processes graphic data corresponding to the [NTH DRIVING SIGNAL] to output [NTH IMAGE SIGNALS. . .]

The [NTH IMAGE] output unit 160, functioning as a CRT or an LCD monitor, receives the [NTH] image signals from the [NTH] graphic data processor 150, converts them into visual signals, and outputs them to the user.

In this instance, the first to [NTH SLOTS] 127 to 147 may be connected to a peripheral component interconnect (PCI) bus.

An operation of a computer with a plurality of image output devices according to a preferred embodiment of the present will now be described in detail.

When the user turns on the computer, the central controller 120 enables a driver stored in the data storage unit 110 to reside in a random access memory [(RAM)] (not illustrated.) After this, when the user manipulates the signal input unit 100 such as a keyboard or a mouse to generate the first to [NTH GRAPHIC] data processing signals, the signal input unit 100 outputs the first to [NTH GRAPHIC] data processing signals to the central controller 120.

When receiving the first to [NTH] graphic data processing signals, the central controller 120 controls the driver that resides in the RAM, divides the graphic data generated while processing the data, and respectively outputs first to [NTH DRIVING] signals to the first to [NTH GRAPHIC] data processors 130 to 150.

When receiving the first to [NTH DRIVING SIGNALS,] the respective first to [NTH GRAPHIC] data processors 130 to 150 process the corresponding graphic data divided by the central controller 120, respectively output them to the first to [NTH IMAGE] output units 140 to 160, and the first to [NTH IMAGE] output units 140 to 160 convert and output them so that the user may visually recognize the processed graphic data.

Therefore, the graphic data are provided to the user through one of plural image output units according to the user's assignment.

FIGs. 2 and 3 show an exemplified computer with a plurality of image output devices according to a preferred embodiment of the present invention.

As shown in [FIG. 2, BY] connecting two LCD monitors of notebook computers, the user can display different screens on the respective LCD monitors according to the user's intention.

As shown in FIG. 3, by using three monitors and a single LCD monitor connected to a single computer, the user can display identical or different screens on the respective monitors according to the user's intention.

As described above, since the present invention provides identical or different image data through a plurality of image output devices according to the user's intention, more [EFFICIENCIES] and conveniences are provided to the computer users.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

Description Claims

WHAT IS CLAIMED IS : [1. A] computer with a plurality of image output devices comprising: a signal input unit for generating N (N represents a natural number equal to or greater than two) graphic data processing signals according to a user's intention; a data storage unit for storing drivers for processing various application programs and graphic data used in the [COMPUTER ; , ARLD OTHER ; KINDS] of data; [A ! CENTRAL CONTROLLER] for enabling a driver to divide graphic data generated when processing the data according to the N graphic data processing signals input from the signal input unit, and to output N driving signals ; N graphic data processors, each for receiving one of the N driving signals output by the central controller to be operated, processing graphic data corresponding to the received driving signals to output image signals; and N image output units, each for receiving one of N image signals output by the N graphic data processors, converting it into a visual signal, and outputting the same to a user. ...

2. The computer of claim 1, wherein the signal input unit is at least one of a keyboard, a mouse, a remote controller or a touch screen.

3. The computer of claim 1, wherein the first graphic data processor is a graphic card.

4. The computer of claim 1, wherein the computer is a notebook computer.

[5.] The computer of claim 1, wherein the computer is a desktop computer.

Description Claims
